the disposable portion, for example, along with various components that come into contact with the fluid. As with some of the other motors described herein, a motor disposed in the disposable portion may include one or more shape-memory actuators.

[0479] It should be noted that section headings are included for convenience and are not intended to limit the scope of the invention.

[0480] In various embodiments, the herein disclosed methods including those for controlling and measuring flow of a fluid and for establishing communication amongst linked components may be implemented as a computer program product for use with a suitable controller or other computer system (referred to generally herein as a "computer system"). Such implementations may include a series of computer instructions fixed either on a tangible medium, such as a computer readable medium (e.g., a diskette, CD-ROM, ROM, EPROM, EEPROM, or fixed disk) or transmittable to a computer system, via a modem or other interface device, such as a communications adapter connected to a network over a medium. The medium may be either a tangible medium (e.g., optical or analog communications lines) or a medium implemented with wireless techniques (e.g., microwave, infrared or other transmission techniques). The series of computer instructions may embody desired functionalities previously described herein with respect to the system. Those skilled in the art should appreciate that such computer instructions can be written in a number of programming languages for use with many computer architectures or operating systems.

[0481] Furthermore, such instructions may be stored in any memory device, such as semiconductor, magnetic, optical or other memory devices, and may be transmitted using any communications technology, such as optical, infrared, acoustic, radio, microwave, or other transmission technologies. It is expected that such a computer program product may be distributed as a removable medium with accompanying printed or electronic documentation (e.g., shrink wrapped software), preloaded with a computer system (e.g., on system ROM, EPROM, EEPROM, or fixed disk), or distributed from a server or electronic bulletin board over the network (e.g., the Internet or World Wide Web). Of course, some embodiments of the invention may be implemented as a combination of both software (e.g., a computer program product) and hardware. Still other embodiments of the invention are implemented as entirely hardware, or substantially in software (e.g., a computer program product).

[0482] It should be noted that dimensions, sizes, and quantities listed herein are exemplary, and the present invention is in no way limited thereto. In an exemplary embodiment of the invention, a patch-sized fluid delivery device may be approximately 6.35 cm (~2.5 in) in length, approximately 3.8 cm (~1.5 in) in width, and approximately 1.9 cm (~0.75 in) in height, although, again, these dimensions are merely exemplary, and dimensions can vary widely for different embodiments.

[0483] While the principles of the invention have been described herein, it is to be understood by those skilled in the art that this description is made only by way of example and not as a limitation as to the scope of the invention. Other embodiments are contemplated within the scope of the present invention in addition to the exemplary embodiments shown and described herein. Modifications and substitutions by one of ordinary skill in the art are considered to be within the scope of the present invention.

What is claimed is:

1. A delivery device system for delivering an infusion medium to a user, the device comprising:
- a disposable housing assembly adapted to be secured to a user's skin;
- a reservoir having an interior for containing a fluidic medium, the reservoir having an outlet port;
- a base portion comprising the reservoir, the base portion having a reservoir cavity, and a fluid path, the reservoir cavity comprising the outlet port and a septum, the fluid path comprising a fluid channel from the outlet port to a cannula port;
- a tubing connected to the base portion at the cannula port, the tubing in fluid communication with the reservoir cavity; and
- a needle insertion device comprising an introduction needle for inserting a cannula into the user's skin, wherein the disposable housing assembly has a passage through which the introduction needle extends

2. The delivery device system of claim **1**, further comprising a reusable housing assembly adapted to be secured to the disposable housing assembly, the reusable housing assembly comprising a volume sensing device, wherein the volume sensing device determines the volume of fluid delivered to the user.

3. The delivery device system of claim **1**, further comprising at least one flexible membrane portion attached onto the base portion and forming a top of the reservoir cavity and a top of the fluid channel.

4. The delivery device system of claim **1**, wherein the tubing comprises a cannula port end and a cannula interface end, the cannula interface end configured to attach to a cannula.

5. The delivery device system of claim **3**, wherein the fluid path further comprises a series of regions exposed to the flexible membrane portion, at least one of the regions being a valve region.

6. The delivery device system of claim **5**, wherein the series of regions further comprises a pump chamber region.

7. The delivery device system of claim **3**, wherein the base portion and the flexible membrane portion constitute a fluidic assembly, and wherein the disposable housing assembly further comprises a disposable base into which the fluidic assembly fits.

8. The delivery device system of claim **7**, further comprising a pad coupled to a bottom of the disposable base, the pad for attaching the disposable housing assembly to the user.

9. The delivery device system of claim **1**, wherein the reservoir port in fluid communication with the reservoir cavity.

10. The delivery device system of claim **2**, the reusable housing assembly further comprising a latching mechanism for permitting selective engagement and disengagement with the disposable housing assembly.

11. The delivery device system of claim **2**, the reusable housing assembly further comprising a mechanism for attaching the housing structure to the user.

12. A delivery device system for delivering an infusion medium to a user, the device comprising:
- a disposable housing assembly adapted to be secured to a user's skin comprising: